## **IN THE CLAIMS:**

Please amend the claims pending in this application as follows:

- 1. (Currently Amended) A method for concatenating packets to be transmitted from a first node to a second node, the method comprising the steps of:
- (a) receiving packets having at least one traffic characteristic from at least one input port;
- (b) concatenating n received packets to form a concatenated packet, wherein the concatenated packet comprises a common header, a content information part of each of the n received packets, and a payload of each of the n received packets; and
- (c) transmitting the concatenated packet from the first node to the second node, wherein the *n* received packets have a common traffic characteristic and *n* is determined based on the common traffic characteristic and at least one packet characteristic, wherein the at least one packet characteristic comprising at least one of comprises a size of the common header, a size of the content information part of each of the n received packets, and one of a size of the payload of each of the n received packets[[,]] or a maximum possible payload size of the common header a received packet having the common traffic characteristic.
- 2. (Previously presented) The method of claim 1, wherein the concatenated packet is transmitted through a channel in a communication network, wherein the common traffic characteristic requires a delay of less than *p* milliseconds.
- 3. (Previously presented) The method of claim 2, wherein the channel has a bandwidth of B and n is determined by solving n from an equation of the form  $(H+nI+\sum_{i=1}^{n}P_{i})/B < p/1000 \text{ , where } H \text{ is the size of the common header, } I \text{ is the size of the content information part of each of the } n \text{ received packets, and } P_{i} \text{ is the size of the payload of the } n \text{ received packets.}$

- 4. (Previously presented) The method of claim 2, wherein the channel has a bandwidth of B and if  $P_{max}$  represents the maximum possible payload size of a received packet having the common traffic characteristic, n is determined by solving n from an equation of the form  $(H + n(I + P_{max})) / B \le p / 1000$ , where H is the size of the common header and I is the size of the content information part of each of the I received packets.
- 5. (Previously presented) The method of claim 1, wherein the concatenated packet is transmitted through a channel in a communication network, wherein the common traffic characteristic is delay insensitive.
- 6. (Currently Amended) The method of claim 5, wherein the  $\underline{a}$  maximum packet size allowed by the communication network is M bytes and n is determined by solving n from an equation of the form  $H+nI+\sum_{i=1}^n P_i \leq M$ , where H is the size of the common header, I is the size of the content information part of each of the n received packets, and  $P_i$  is the size of the payload of the ith of the n received packets.
- 7. (Currently Amended) The method of claim 5, wherein the  $\underline{a}$  maximum packet size allowed by the communication network is M bytes and if  $P_{max}$  represents the maximum possible payload size of a received packet having the common traffic characteristic, n is determined by solving n from an equation of the form  $H + n(I + P_{max}) \leq M$ , where H is the size of the common header, and I is the size of the content information part of each of the n received packets.
- 8. (Currently Amended) An apparatus for concatenating packets to be transmitted from a first node to a second node, the apparatus comprising:
- (a) at least one input port for receiving packets;
- (b) a traffic characteristic classifier for classifying and storing received packets of different traffic characteristics into different traffic characteristic groups in memory;

- (c) a concatenated packets preparer for forming a concatenated packet from *n* received packets, wherein the concatenated packet comprises a common header, a content information part of each of the *n* received packets, and a payload of each of the *n* received packets; and
- (d) at least one output port for transmitting the concatenated packet to the second node, wherein the *n* packets belong to one traffic characteristic group and *n* is determined based on the traffic characteristic of the one traffic characteristic group and at least one packet characteristic, wherein the at least one packet characteristic comprising at least one of comprises a size of the common header, a size of the content information part of each of the *n* received packets, and one of a size of the payload of each of the *n* received packets[[,]] or a maximum possible payload size of the common header a received packet having the traffic characteristic of the one traffic characteristic group.
- 9. (Previously presented) The apparatus of claim 8, wherein the concatenated packet is transmitted through a channel in a communication network, wherein the n packets belong to the one traffic characteristic group that requires a delay time of less than p milliseconds, wherein the common header includes H bytes, the content information part of each of the n received packets includes I bytes, and the payload for Ith of the I1 received packets includes I2 bytes.
- 10. (Previously presented) The apparatus of claim 9, wherein the channel has a bandwidth of B and n is determined by solving n from an equation of the form

$$(H + nI + \sum_{i=1}^{n} P_i)/B < p/1000.$$

11. (Previously presented) The method of claim 9, wherein the channel has a bandwidth of B and if  $P_{max}$  represents the maximum possible payload size of a received packet having the common traffic characteristic, n is determined by solving n from an equation of the form  $(H + n(I + P_{max}))/B \le p/1000$ .

Serial No. 09/882,119 Page 5 of 14

- 12. (Previously presented) The apparatus of claim 8, wherein the concatenated packet is transmitted through a channel in a communication network, wherein the n packets belong to the one traffic characteristic group that is delay insensitive, wherein the common header includes H bytes, the content information part of each of the n received packets includes I bytes, and the payload for ith of the n received packets includes  $P_i$  bytes.
- 13. (Currently Amended) The apparatus of claim 12, wherein the  $\underline{a}$  maximum packet size allowed by the communication network is M bytes and n is determined by solving n from an equation of the form  $H + nI + \sum_{i=1}^{n} P_i \leq M$ .
- 14. (Currently Amended) The method of claim 12, wherein the  $\underline{a}$  maximum packet size allowed by the communication network is M bytes and if  $P_{\max}$  represents the maximum possible payload size of a received packet having the common traffic characteristic, n is determined by solving n from an equation of the form  $H + n(I + P_{\max}) \leq M$ .